

REMARKS

Claims 1-38 are now pending in the present application. Claims 21-38 have been withdrawn pursuant to a restriction requirement. Additionally, Claims 1, 19 and 20 have been amended. Support for amendments made to claim 1 can be found in originally filed claim 7 and paragraphs 40 and 41 of the instant published patent application (2005/0170492). Claims 19 and 20 were amended to correct an inadvertent error. Claims 7 and 21-38 have been canceled and no claims have been added.

Applicants thank Examiner Drodge for the courtesy of the interview conducted on May 23, 2007. Applicants believe the substance of the interview was accurately recorded in form PTOL-413 prepared by Examiner Drodge and attached hereto. Reconsideration in light of the following remarks is respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. § 103

Claims 1, 5-10, 12, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sieg in view of Pearson patent 5,203,696.

Claims 2, 4, 11, 13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sieg in view of Pearson patent 5,203,696 as applied to claim 1 above, and further in view of Mitcheson patent 5,434,381.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sieg in view of Pearson patent 5,203,696, and Mitcheson patent 5,434,381, as applied to claim 2 above, and further in view of Backman patent 4,927,547.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sieg in view of Pearson patent 5,203,696 as applied to claim 1 above, and further in view of Lewis patent 4,646,317.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sieg in view of Pearson patent 5,203,696, and Mitcheson patent 5,434,381, as applied to claim 2 above, and further in view of Cosack et al patent 4,136,029.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sieg in view of Pearson patent 5,203,696 as applied to claim 1 above, and further in view of Cosack et al patent 4,136,029.

Response: To establish a prima facie case of obviousness, the prior art reference or references, when combined, must teach or suggest all claim limitations. MPEP 706.02(j)

Here, Applicants respectfully submit that the prior art cited fails to teach or suggest several claims limitations. For example, claim 1 has the required claimed limitation of “wherein the pressure delivered by the first pump provides kinetic energy to the influent fluid to promote turbulent flow within the fluid ring of the separator which results in the retention of contaminant particles on the exterior surface of the flux cartridge.” The Sieg and Pearson references both fail to route fluid from an annular fluid ring through a filtered medium and into an interior chamber. The inward facing arrows in the permeate chamber 31 in Figure 3 of Sieg reference (below) are misleading because the arrows are not indicators of flow, but are used to illustrate the ultrasonic energy being

(below), the Sieg reference beginning at col. 7, ln. 59 discloses:



housing 300.

At the outer periphery of this housing at the level of the permeate chamber 31 6 ultrasonic sources 33 are arranged with their radiating surface 5 37 in a ring around the permeate chamber so that they irradiate the permeate side of the filter 32 during the cleaning cycle and loosen the contaminant particles in the membrane pores.

It becomes clear that the flow path disclosed by Sieg fails to teach or suggest the same flow path of the claimed invention. Because the concentrate in Sieg enters in the center of concentrate chamber 30, it fails to teach or suggest an apparatus that produces the turbulence produced by the claimed invention. As a result, Sieg, alone or in combination with Pearson, fails to promote turbulent flow within the fluid ring as the claimed invention. Consequently, for at least this reason, Applicants respectfully request the rejection as to claim 1 be withdrawn.

Sieg also fails to teach or suggest the claimed limitation of “the collection of filtered fluid within an interior chamber of the flux cartridge.” Rather, as the above-referenced passage of Sieg indicates, and again referring to Figure 3 of Sieg, shown above, Sieg illustrates a permeate chamber 31 (in which the ‘filtered’ fluid resides) as the exterior chamber and the concentrate chamber 30 (where the influent fluid having contaminants is delivered) as the interior chamber. Consequently, for at least this reason, Applicants respectfully request the rejection as to claim 1 be withdrawn.

In similar fashion, unlike the claimed invention “which results in the retention of contaminant particles on the exterior surface of the flux cartridge” the apparatus of Sieg necessarily requires contaminant particles be retained on the interior surface (as illustrated by numeral 32 of in Figure 3 of Sieg) of the flux cartridge.

Further, the prior art fails to teach or suggest the claim limitation of “a second pump in fluid communication with the separator.” Rather, Sieg discloses that the “pump

29 displaces the cleaned machining liquid via line 9 to the location of the electroerosive machining of workpieces by means of electrodes (EDM) or the electrochemical machining of workpieces without electrodes (ECM).” U.S. Pat. No. 5,298,161 col. 5, lns. 35-39. Figure 1 of Sieg clearly discloses that the pump 29 is in fluid communication only with the permeate vessel 28. The pump 29 is not in fluid communication with the permeate chamber 31 or the concentrate chamber 30. The second pump of the claimed invention, on the other hand, “is capable of reversing the flow of fluid through the flux cartridge” Sieg and Pearson, alone or in combination fail to teach or suggest this required claim limitation. Consequently, because Sieg, alone or in combination with any other cited reference fails to teach or suggest the limitation of “a second pump in fluid communication with the separator,” and further fails to teach or suggest a second pump that is “capable of reversing the flow of fluid through the flux cartridge,” Applicants respectfully request the rejection be withdrawn.

Regarding the combination of Sieg and Pearson, Applicants note that claim 1 indicates that the action of the first pump “result in the retention of contaminant particles on the exterior surface of the flux cartridge,” and the action of the second pump, “provides for the removal of the contaminant particles from contact with the exterior surface of the flux cartridge” Sieg and Pearson, alone or in combination, fail to teach or suggest these claimed elements. Rather, Pearson, as illustrated by Figure 5 below, stands for the proposition that a single, high pressure pump 64 be used to deliver high pressure brine through the higher pressure side 54 of the vessel 52 and further teaches that the proportion of the brine which does not pass through the membrane flushes

through the high pressure side 54 of the vessel 52 and returns still under high pressure to inlet 17 of the pump 64.

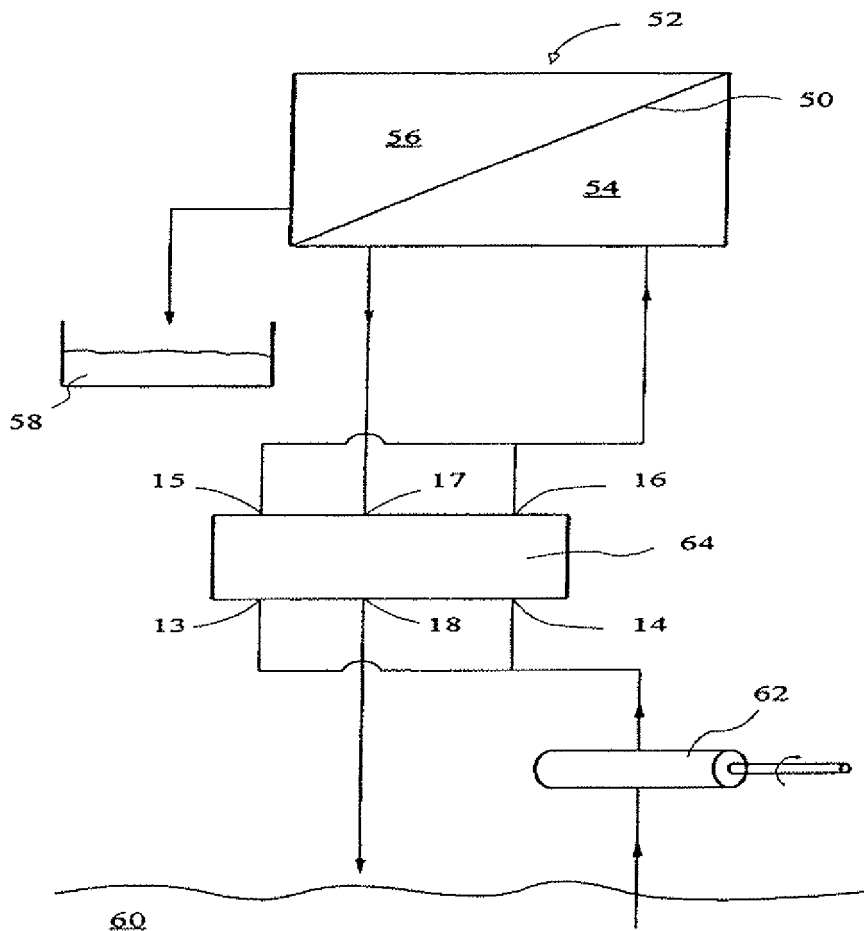


Fig. 5

By teaching that the membrane 50 can be flushed by using high pressure flushing flow on the high pressure side 54, the Pearson reference actually teaches away from using a second pump in fluid communication with the permeate side 56. Such teaching is contrary to the claimed invention. Consequently, Applicants submit that when looking at the claimed invention as a whole, the claimed invention is not obvious.

Regarding claim 19, Applicants have amended the claim to better reflect the intent of the claimed invention. Support for the amendment can be found in paragraphs

41 and 64 of the instant published patent application (2005/0170492). Applicants submit that the transition plate of amended claim 19 is not equivalent to the distribution plate of Cosack. The distribution plate of Cosack is used to provide flow in a “uniformly distributed manner over the entire periphery of filter 10.” (U.S. Pat. No. 4,136,029, col. 5, lns. 33-34). Cosack indicates that “it is an object of the present invention to create a flat pressure filtration apparatus.” *Id.* at col. 1, lns. 64-65. Cossack teaches “a flat, essentially two-piece filtration cell in which parallel to the top surface of the filter and closely above the same a distributor plate is disposed which leaves open or free only a narrow intervening space” *Id.* at col. 2, lns. 7-11 (emphasis added). Such device is substantially different from the claimed invention and would surely fail to be useful for any type of high solids or sludge-like material.

The foregoing arguments were discussed with Examiner Drodge during an in person interview on May 23, 2007. Consequently, in the interests of prosecutorial efficiency, it was suggested that limitations from claim 7 be incorporated into claim 1. Consequently, in light of the amendment to claim 1, Applicants respectfully request all rejections be withdrawn.

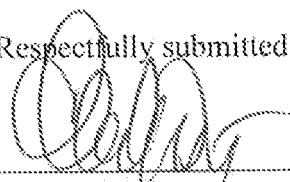
CONCLUSION

In light of the amendments and the arguments made by Applicants above, as well as the evidence previously submitted, Applicants submit that all existing, examined claims are now in a condition for allowance. Applicants respectfully request that Examiner withdraw all restrictions and rejections with regard to the above-referenced claims in reliance on one or more of the grounds submitted by Applicants.

If there are any outstanding issues that the Examiner feels may be resolved by way of telephone conference, the Examiner is invited to call Chad Walter at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

The Commissioner is hereby authorized to charge any payments that may be due or credit any overpayments to CARSTENS & CAHOON, LLP Deposit Account 50-0392.

Respectfully submitted by:



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